Math Clinic Status Update 3

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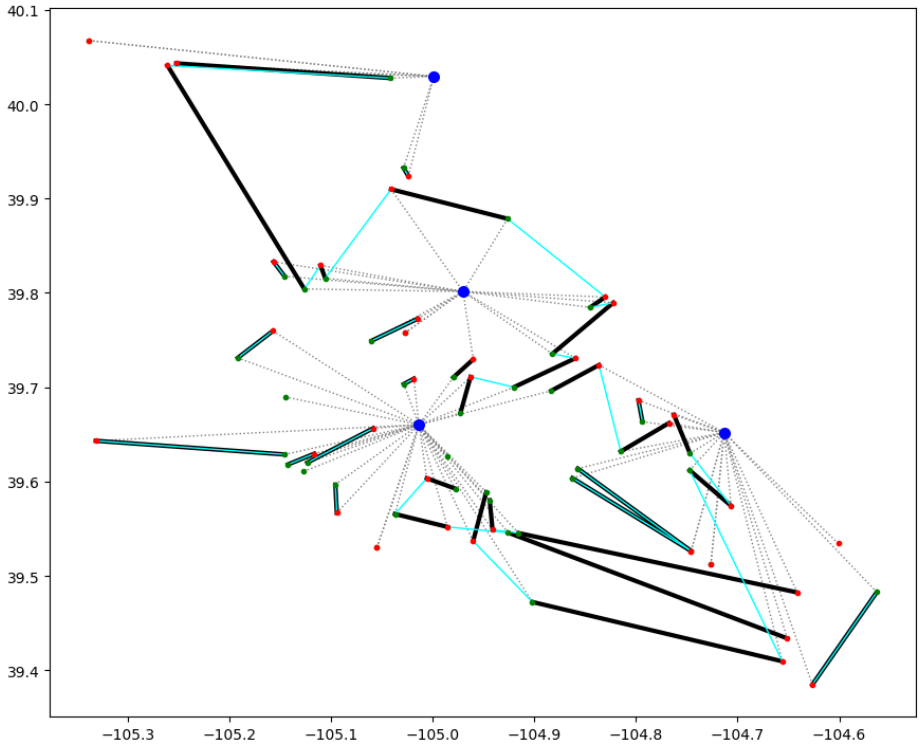
1 Since our last update...

We have integrated the data that the professor published, and compared the outcomes for inter-zone delivery-pickup pairs allowed, and not allowed. In this instance, the differences of the times for the total routes (without transitions) is about 70 minutes (out of around 1600 minutes) over the whole day, across 8 drivers. With the added complexity of extra transitions, it seems like we would probably do better to keep delivery-pickup pairs restricted to the same zone.



Matching visualization with actual customer data. Cyan edges are when delivery-pickup pairs are zone restricted, and black edges are when they may cross zones.

Interestingly, preliminary results from the route assignment algorithm (which we have also been working on) are showing that it may still be better to use the interzone matching, even with the overhead of less efficient transitions. However, at this stage we aren't completely sure that the results of the route assignment are valid.

2 What's on our plate now...

- Work more on making good transitions
- Visualize route assignments

3 What's next...

- Satisfy other constraints for driver routes
- Satisfy inventory constraints for landfills